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U.S. Patent Application No. 09/300,302

Applicants: Gerardo H. Llinas, et al.

Title: "Preparation and Use of Heterogeneous

Our Ref.: 617074-8/JP/B-3645

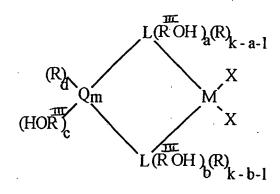
Date: February 5, 2003

TECHNOLOGY CENTER 1

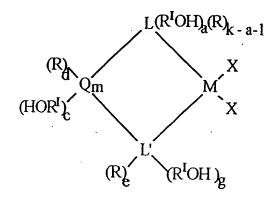
1. (amended three times) A catalytic component obtained by reacting a porous inorganic support with a metallocene compound, wherein the metallocene compound is defined by formula I, II, or III:

 $(LR_k)_z[LR_{k-f}(R^IOH)_f]_xMX_y$

I



II, or



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wherein:

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the **L** groups are equal to or different from each other, wherein each **L** is selected from the group consisting of: cyclopentadienyl, indenyl, tetrahydroindenyl, fluorenyl, octahydrofluorenyl, and benzoindenyl;

each ${\bf R}$ is independently hydrogen, linear or branched ${\bf C_1}$ - ${\bf C_{20}}$ alkyl, linear or branched ${\bf C_3}$ - ${\bf C_{20}}$ cycloalkyl, linear or branched ${\bf C_6}$ - ${\bf C_{20}}$ aryl, linear or branched ${\bf C_3}$ - ${\bf C_{20}}$ alkenyl, linear or branched ${\bf C_7}$ - ${\bf C_{20}}$ arylalkyl, linear or branched ${\bf C_7}$ - ${\bf C_{20}}$ alkylaryl, linear or branched ${\bf C_8}$ - ${\bf C_{20}}$ arylalkenyl, or a group ${\bf SiR^{II}}_3$, wherein the ${\bf C_1}$ - ${\bf C_{20}}$ alkyl, the ${\bf C_3}$ - ${\bf C_{20}}$ cycloalkyl, the ${\bf C_6}$ - ${\bf C_{20}}$ aryl, the ${\bf C_3}$ - ${\bf C_{20}}$ alkenyl, the ${\bf C_7}$ - ${\bf C_{20}}$ alkylaryl, and the ${\bf C_8}$ - ${\bf C_{20}}$ arylalkenyl are optionally substituted with 1 to 10 halogen atoms;

the $\mathbf{R^I}$ groups are equal to or different from each other, wherein each $\mathbf{R^I}$ is a divalent aliphatic or aromatic hydrocarbon group containing from 1 to 20 carbon atoms;

the R^{III} groups are equal to or different from each other, wherein each R^{III} is a divalent aliphatic or aromatic hydrocarbon group containing from 1 to 20 carbon atoms, optionally containing from 1 to 5 heteroatoms of groups 14 to 16 of the Periodic Table of the Elements, and optionally containing boron;

each Q is independently B, C, Si, Ge, or Sn;

M is a lanthanide, an actinide, or a metal of group 3, 4, or 10 of the Periodic Table of the Elements;

each ${\bf X}$ is independently hydrogen, chlorine, bromine, ${\rm OR^{II}},$ ${\rm NR^{II}}_2,$ ${\rm C_1-C_{20}}$ alkyl, or ${\rm C_6-C_{20}}$ aryl ;

each ${\bf R^{II}}$ is independently linear or branched ${\rm C_1-C_{20}}$ alkyl, linear or branched ${\rm C_3-C_{20}}$ cycloalkyl, linear or branched ${\rm C_6-C_{20}}$

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aryl, linear or branched C_3-C_{20} alkenyl, linear or branched C_7-C_{20}
arylalkyl, linear or branched C_7 - C_{20} arylalkenyl, or linear or
branched C_7-C_{20} alkylaryl;
    L' is N or 0;
    when L is cyclopentadienyl, k is equal to 5; when L is
indenyl, k is equal to 7; when L is fluorenyl or benzoindenyl, k
is equal to 9; when {f L} is tetrahydroindenyl, {f k} is equal to 11; and
when L is octahydrofluorenyl, k is equal to 17;
      z is equal to 0, 1, or 2;
      \mathbf{x} is equal to 1, 2, or 3;
     y is equal to 1, 2, or 3;
      x + y + z is equal to the valence of M;
     m is equal to 1, 2, 3 or 4;
      a is an integer whose value ranges from 0 to k-1;
      b is an integer whose value ranges from 0 to k-1;
      f is an integer whose value ranges from 1 to k;
      g is equal to 0 to 1;
      c is equal to 0 or 1;
      e is equal to 0 or 1;
      \mathbf{a} + \mathbf{b} + \mathbf{c} is at least 1;
      \mathbf{a} + \mathbf{g} + \mathbf{c} is at least 1;
      d is equal to 0, 1, or 2;
      when Q is B, then c + d = 1;
      when \mathbf{Q} is C, Si, Ge, or Sn, then \mathbf{c} + \mathbf{d} = 2;
      when L' is N, then g + e = 1; and
      when \mathbf{L'} is 0, then \mathbf{g} = 0 and \mathbf{e} = 0.
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2. (amended twice) A catalytic component according to claim 1 wherein $\mathbf{R^T}$ is: linear or branched C_1-C_{20} alkylene, linear or branched C_6-C_{20} arylene,

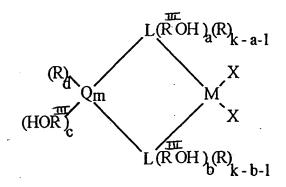
linear or branched C_7 - C_{20} alkenyl, linear or branched C_7 - C_{20} arylalkylene, linear or branched C_7 - C_{20} alkylarylene, or a group $SiR^{II}_{\ \ 2}$; and wherein R^{III} is: linear or branched C_1 - C_{20} alkylene, linear or branched C_3 - C_{20} cycloalkylene, linear or branched C_6 - C_{20} arylene, linear or branched C_7 - C_{20} alkenyl, linear or branched C_7 - C_{20} arylalkylene, linear or branched C_7 - C_{20} alkylarylene, or the group $SiR^{II}_{\ \ 2}$.

- 3. (amended twice) A catalytic component according to claim 1 wherein $R^{I}OH$ is CH_2-CH_2OH , $CH_2-CH_2-CH_2OH$, $O-CH_2-CH_2OH$, $SiMe_2-CH_2-CH_2OH$, or $SiMe_2-CH_2-CH_2OH$; and wherein R^{III} is CH_2-CH_2OH , $CH_2-CH_2-CH_2OH$, $O-CH_2-CH_2OH$, $SiMe_2-CH_2-CH_2OH$, or $SiMe_2-CH_2-CH_2OH$.
- 4. (amended three times) A catalytic component according to claim 1 wherein M is titanium, zirconium, or hafnium.
- 5. (amended four times) A catalytic component according to claim 1 wherein the inorganic support is previously treated with alumoxane or trialkylaluminum.
 - 6. (amended three times) A catalytic component obtained by reacting an alumoxane or a trialkylaluminum with a metallocene compound defined by formula I, II, or III:

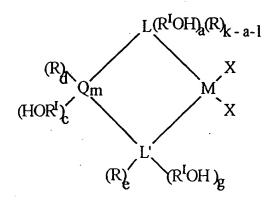
 $(LR_k)_z[LR_{k\text{-}f}(R^lOH)_f]_xMX_y$

I,





 Π , or



wherein:

the ${\bf L}$ groups are equal to or different from each other, wherein each ${\bf L}$ is selected from the group consisting of: cyclopentadienyl, indenyl, tetrahydroindenyl, fluorenyl,

octahydrofluorenyl, and benzoindenyl;

each ${\bf R}$ is independently hydrogen, linear or branched ${\bf C_1-C_{20}}$ alkyl, linear or branched ${\bf C_3-C_{20}}$ cycloalkyl, linear or branched ${\bf C_{6-C_{20}}}$ aryl, linear or branched ${\bf C_{3-C_{20}}}$ alkenyl, linear or branched ${\bf C_{7-C_{20}}}$ alkylaryl, linear or branched ${\bf C_{7-C_{20}}}$ alkylaryl, linear or branched ${\bf C_{8-C_{20}}}$ arylalkenyl, or a group ${\bf SiR^{II}}_3$, wherein the ${\bf C_{1-C_{20}}}$ alkyl, the ${\bf C_{3-C_{20}}}$ cycloalkyl, the ${\bf C_{6-C_{20}}}$ aryl, the ${\bf C_{3-C_{20}}}$ alkenyl, the ${\bf C_{7-C_{20}}}$ alkylaryl, and the ${\bf C_{8-C_{20}}}$ arylalkenyl are optionally substituted with 1 to 10 halogen atoms;

the $\mathbf{R^{I}}$ groups are equal to or different from each other, wherein each $\mathbf{R^{I}}$ is a divalent aliphatic or aromatic hydrocarbon group containing from 1 to 20 carbon atoms;

the R^{III} groups are equal to or different from each other, wherein each R^{III} is a divalent aliphatic or aromatic hydrocarbon group containing from 1 to 20 carbon atoms, optionally containing from 1 to 5 heteroatoms of groups 14 to 16 of the Periodic Table of the Elements, and optionally containing boron;

each Q is independently B, C, Si, Ge, or Sn;

M is a lanthanide, an actinide, or a metal of group 3, 4, or 10 of the Periodic Table of the Elements;

each ${\bf X}$ is independently hydrogen, chlorine, bromine, OR^{II}, NR^{II}₂, C₁-C₂₀ alkyl, or C₆-C₂₀ aryl;

each $\mathbf{R^{II}}$ is independently linear or branched C_1 - C_{20} alkyl, linear or branched C_3 - C_{20} cycloalkyl, linear or branched C_6 - C_{20} aryl, linear or branched C_3 - C_{20} alkenyl, linear or branched C_7 - C_{20} arylalkyl, linear or branched C_7 - C_{20} arylalkenyl, or linear or branched C_7 - C_{20} alkylaryl;

L' is N or O;

when L is cyclopentadienyl, k is equal to 5; when L is indenyl, k is equal to 7; when L is fluorenyl or benzoindenyl, kis equal to 9; when L is tetrahydroindenyl, k is equal to 11; and when L is octahydrofluorenyl, k is equal to 17; **z** is equal to 0, 1, or 2; \mathbf{x} is equal to 1, 2, or 3; y is equal to 1, 2, or 3; x + y + z is equal to the valence of M; **m** is equal to 1, 2, 3 or 4; **a** is an integer whose value ranges from 0 to k-1; **b** is an integer whose value ranges from 0 to k-1; **f** is an integer whose value ranges from 1 to k; g is equal to 0 to 1; c is equal to 0 or 1; e is equal to 0 or 1; $\mathbf{a} + \mathbf{b} + \mathbf{c}$ is at least 1; $\mathbf{a} + \mathbf{g} + \mathbf{c}$ is at least 1; **d** is equal to 0, 1, or 2; when Q is B, then c + d = 1; when \mathbf{Q} is C, Si, Ge, or Sn, then $\mathbf{c} + \mathbf{d} = 2$; when L' is N, then g + e = 1; and

- 7. (amended three times) A catalytic component according to claim 6 wherein the metallocene compound is defined by the formula I or the formula II.
- 8. (amended three times) A catalytic component as claimed in claim 1, wherein the metallocene compound is defined by the

when L' is 0, then g = 0 and e = 0.



formula II or the formula III.



- 9. (amended twice) A process for polymerization of alpha olefins in a slurry, in a gas phase, in bulk, or in a solution, wherein the polymerization is catalyzed by the catalytic component claimed in claim 8.
- 10. (amended twice) A catalytic component according to claim 1 wherein the metallocene compound is defined by the formula II.
- 11. (amended twice) A catalytic system comprising the catalytic component claimed in claim 1 and a cocatalyst selected from the group consisting of: an alkylaluminoxane, trialkylaluminum, Lewis acids, and mixtures thereof.



- 13. (amended once) A catalytic component as claimed in Claim 1, wherein $\mathbf{R}^{\mathbf{II}}$ is methyl, ethyl, or isopropyl.
- 14. (amended once) A catalytic component as claimed in Claim 8, wherein ${\bf c}$ is equal to 1 and ${\bf L}^{{\bf r}}$ is 0.
- 15. (amended once) A catalytic component as claimed in Claim 1, wherein the metallocene compound is selected from the group consisting of:

bis(2-hydroxyethyl-cyclopentadienyl) zirconium dichloride;

(2-hydroxyethyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;

(2-hydroxyethyl-cyclopentadienyl)(indenyl) zirconium dichloride; (2-hydroxyethyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride; (2-hydroxyethyl-cyclopentadienyl)(fluorenyl) zirconium dichloride; (2-hydroxyethyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride; (2-hydroxyethyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride; bis(3-hydroxyropyl-cyclopentadienyl) zirconium dichloride; (3-hydroxyropyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride; (3-hydroxyropyl-cyclopentadienyl)(indenyl) zirconium dichloride; (3-hydroxyropyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride; (3-hydroxyropyl-cyclopentadienyl)(fluorenyl) zirconium dichloride; (3-hydroxyropyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride; (3-hydroxyropyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride; bis(2-hydroxy-ethoxy-cyclopentadienyl) zirconium dichloride; (2-hydroxy-ethoxy-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride; (2-hydroxy-ethoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride; (2-hydroxy-ethoxy-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride; (2-hydroxy-ethoxy-cyclopentadienyl)(fluorenyl) zirconium dichloride; (2-hydroxy-ethoxy-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride; (2-hydroxy-ethoxy-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride; bis(2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl) zirconium dichloride; (2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride; (2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(indenyl) zirconium dichloride; (2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride; (2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(fluorenyl) zirconium dichloride; (2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride; (2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride: (3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride; (3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(indenyl) zirconium dichloride; (3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride; (3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(fluorenyl) zirconium dichloride;

dichloride:

bis(2-hydroxy-(dimethyl)silyl-cyclopentadienyl) zirconium dichloride; (2-hydroxy-(dimethyl)silyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride; dimethylsilandiylbis(2-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl) (ciclopentadienil) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxyethyl)-cyclopentadienyl) (1-indenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2methylbenzoindenyl)) zirconium dichloride;

dimethylsilandiylbis(2-(3-hydroxypropyl)-cyclopentadienyl) zirconium dichloride; dimethylsilandiylbis(3-3-hydroxyropyl-cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl) (ciclopentadienil) zirconium dichloride; dimethylsilandiyl(2-(3-hydroxypropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(3-3-hydroxypropyl-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(2-(3-hydroxypropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(2-(3-hydroxypropyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(2-(3-hydroxypropyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl)(1-(2methylbenzoindenyl)) zirconium

dichloride;

dimethylsilandiylbis(2-(2-hydroxy)-ethoxy-cyclopentadienyl) zirconium dichloride; dimethylsilandiylbis(3-(2-hydroxy)-ethoxy-cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxy)-ethoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxy)-ethoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxy)-ethoxy-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

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dimethylsilandiyl(3-(2-hydroxy)-ethoxy-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxy)-ethoxy-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxy)-ethoxy-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxy)-ethoxy-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy)-ethoxy-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiylbis(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; dimethylsilandiylbis(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride:

dimethylsilandiyl(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;

dimethylsilandiylbis(3-(2-hydroxy-(dimethyl)silyl-1-indenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxy-(dimethyl)silyl-1-indenyl) (1-indenyl)zirconium dichloride; isopropylidenebis(2-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride;

isopropylidenebis(3-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride;

isopropylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride:

isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride:

isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2methylbenzoindenyl)) zirconium dichloride:

isopropylidenebis(2-(3-hydroxypropyl)-cyclopentadienyl) zirconium dichloride; isopropylidenebis(3-(3-hydroxyropyl)-cyclopentadienyl) zirconium dichloride; isopropylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium

isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride:

isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(1-(2methylbenzoindenyl)) zirconium dichloride:

isopropylidenebis(2-(2-hydroxy-ethoxy)-cyclopentadienyl) zirconium dichloride;



dichloride:

isopropylidenebis(3-(2-hydroxy-ethoxy)-cyclopentadienyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; isopropylidenebis(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium

dichloride;

isopropylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(2-(2-hydroxy-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methylbenzoindenyl))

zirconium dichloride; ethylidenebis(2-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride; ethylidenebis(3-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride; ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl) (cyclopentadienyl) zirconium dichloride; ethylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(2-(3-hydroxypropyl)-cyclopentadienyl) zirconium dichloride; ethylidenebis(3-(3-hydroxyropyl)-cyclopentadienyl) zirconium dichloride; ethylidene(3-(3-hydroxyropyl)-cyclopentadienyl) (cyclopentadienyl) zirconium dichloride; ethylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(3-3-hydroxyropyl-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(3-3-hydroxyropyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(3-3-hydroxyropyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(2-(2-hydroxy-ethoxy)-cyclopentadienyl) zirconium dichloride; ethylidenebis(3-(2-hydroxy-ethoxy)-cyclopentadienyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride;

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ethylidenebis(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride: ethylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride: ethylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride: ethylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride: dimethylsilandiylbis(1-(2-(2-hydroxyethyl)-indenyl)) zirconium dichloride; dimethylsilandiylbis(1-(3-(2-hydroxyethyl)-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiylbis(1-(2-(3-hydroxypropyl)-indenyl)) zirconium dichloride; dimethylsilandivlbis(1-(3-(3-hydroxyropyl)-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(3-hydroxypropyl)-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxyropyl)-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(3-hydroxypropyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxyropyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(3-hydroxypropyl)-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxyropyl)-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(3-hydroxypropyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxyropyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiylbis(1-(2-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride;

dimethylsilandiylbis(1-(3-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiylbis(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; dimethylsilandiylbis(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride: dimethylsilandiyl(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(1-(2-(2-hydroxyethyl)-indenyl)) zirconium dichloride; isopropylidenebis(1-(3-(2-hydroxyethyl)-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(1-(2-(3-hydroxypropyl)-indenyl)) zirconium dichloride;

isopropylidenebis(1-(3-3-hydroxyropyl-indenyl)) zirconium dichloride; isopropylidene(1-(2-(3-hydroxypropyl)-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(3-3-hydroxyropyl-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(2-(3-hydroxypropyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(3-3-hydroxyropyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(2-(3-hydroxypropyl)-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(3-3-hydroxyropyl-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(2-(3-hydroxypropyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidene(1-(3-3-hydroxyropyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(1-(2-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride; isopropylidenebis(1-(3-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; isopropylidenebis(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(1-(2-(2-hydroxyethyl)-indenyl)) zirconium dichloride;

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ethylidenebis(1-(3-(2-hydroxyethyl)-indenyl)) zirconium dichloride;
ethylidene(1-(2-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride;
ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride;
ethylidene(1-(2-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;
ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;
ethylidene(1-(2-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride;
ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride;
ethylidene(1-(2-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;
ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;
ethylidenebis(1-(2-(3-hydroxypropyl)-indenyl)) zirconium dichloride;
ethylidenebis(1-(3-3-hydroxyropyl-indenyl)) zirconium dichloride;
ethylidene(1-(2-(3-hydroxypropyl)-indenyl))(1-indenyl) zirconium dichloride;
ethylidene(1-(3-3-hydroxyropyl-indenyl))(1-indenyl) zirconium dichloride;
ethylidene(1-(2-(3-hydroxypropyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;
ethylidene(1-(3-3-hydroxyropyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;
ethylidene(1-(2-(3-hydroxypropyl)-indenyl))(9-fluorenyl) zirconium dichloride;
ethylidene(1-(3-3-hydroxyropyl-indenyl))(9-fluorenyl) zirconium dichloride;
dichloride;
ethylidenebis(1-(2-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride;
ethylidenebis(1-(3-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride;
ethylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride;
ethylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride;
ethylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;
ethylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;
ethylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride;
ethylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride;
ethylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;
ethylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;
ethylidenebis(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride;
ethylidenebis(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride;
ethylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride;
ethylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride;
ethylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium
dichloride;
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ethylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; ethylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; ethylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilylenebis(9-(1-(2-hydroxyethyl)-fluorenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxyethyl)-fluorenyl))(cyclopentadienyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxyethyl)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxyethyl)-fluorenyl))(1-indenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxyethyl)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilylenebis(9-(1-(3-hydroxyropyl)- fluorenyl)) zirconium dichloride; dimethylsilylene(9-(1-(3-hydroxyropyl)-fluorenyl))(9-fluorenyl) zirconium dichloride; dimethylsilylene(9-(1-(3-hydroxyropyl)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilylene(9-(1-(3-hydroxyropyl)-fluorenyl))(1-indenyl) zirconium dichloride; dimethylsilylene(9-(1-(3-hydroxyropyl)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilylenebis(9-(1-(2-hydroxy-ethoxy)-fluorenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(9-fluorenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(1-indenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilylenebis(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-fluorenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(9-(1-(2-hydroxyethyl)-fluorenyl)) zirconium dichloride; isopropylidene(9-(1-(2-hydroxyethyl)-fluorenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxyethyl)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxyethyl)-fluorenyl))(1-indenyl) zirconium dichloride; isopropylidene(9-(1-(2-hydroxyethyl)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(9-(1-(3-hydroxyropyl)-fluorenyl)) zirconium dichloride; isopropylidene(9-(1-(3-hydroxyropyl)-fluorenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(9-(1-(3-hydroxyropyl)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(9-(1-(3-hydroxyropyl)-fluorenyl))(1-indenyl) zirconium dichloride; isopropylidene(9-(1-(3-hydroxyropyl)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(9-(1-(2-hydroxy-ethoxy)-fluorenyl)) zirconium dichloride; isopropylidene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(1-indenyl) zirconium dichloride; isopropylidene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride; isopropylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(9-(1-2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium dichloride; isopropylidene(9-(1-2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(9-(1-(2-hydroxyethyl-fluorenyl)) zirconium dichloride; ethylidene(9-(1-(2-hydroxyethyl-fluorenyl))(9-fluorenyl) zirconium dichloride; ethylidene(9-(1-(2-hydroxyethyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(9-(1-(2-hydroxyethyl-fluorenyl))(1-indenyl) zirconium dichloride; ethylidene(9-(1-(2-hydroxyethyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(9-(1-(3-hydroxyropyl-fluorenyl)) zirconium dichloride; ethylidene(9-(1-(3-hydroxyropyl-fluorenyl))(9-fluorenyl) zirconium dichloride; ethylidene(9-(1-(3-hydroxyropyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(9-(1-(3-hydroxyropyl-fluorenyl))(1-indenyl) zirconium dichloride; ethylidene(9-(1-(3-hydroxyropyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(9-(1-(2-hydroxy-ethoxy-fluorenyl)) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethoxy-fluorenyl))(9-fluorenyl) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethoxy-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethoxy-fluorenyl))(1-indenyl) zirconium dichloride;

ethylidene(9-(1-(2-hydroxy-ethoxy-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-fluorenyl) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

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- 2-hydroxyethyl(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiylbis(9-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl(methyl)silndiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiylbis(1-indenyl) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride:
- 2-hydroxyethyl(methyl)silandiylbis(1-(2-methylbenzoindenyl)) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiylbis(9-fluorenyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiylbis(1-indenyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium

dichloride;

- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidenebis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidenebis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(9-fluorenyl) zirconium dichloride:
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidenebis(1-indenyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidenebis(cyclopentadienyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidenebis(1-indenyl) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidenebis(cyclopentadienyl) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;

- 1-(3-hydroxypropyl)-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride:
- 1-(3-hydroxypropyl)-ethylidenebis(1-indenyl) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidenebis(cyclopentadienyl) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride:
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidenebis(cyclopentadienyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride:
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(tetramethylcylopentadienyl) titanium dichloride:
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-(2-metthylbenzoindenyl) titanium dichloride;
- (dimethyl)silandiyl-(tertbutylamido)(3-((2-hydroxyethyl)cylopentadienyl) titanium dichloride;
- (dimethyl)silandiyl-(tertbutylamido)(1-(3-(2-hydroxyethyl)indenyl) titanium dichloride:

(dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(cylopentadienyl) titanium dichloride; (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(tetramethylcylopentadienyl) titanium dichloride; (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(1-indenyl) titanium dichloride; (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(9-fluorenyl) titanium dichloride; (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(1-(2-methylbenzoindenyl) titanium dichloride; (3-hydroxypropyl)(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) titanium dichloride; (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;

- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl(tertbutylamido)-(1-(2-methylbenzoindenyl) titanium dichloride;
- (dimethyl)silandiyl-(tertbutylamido)(3-((3-hydroxypropyl)cylopentadienyl) titanium dichloride;
- (dimethyl)silandiyl-(tertbutylamido)(1-(3-(3-hydroxypropyl)indenyl) titanium dichloride;
- (dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(cylopentadienyl) titanium dichloride;
- (dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(tetramethylcylopentadienyl) titanium dichloride:
- (dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(1-indenyl) titanium dichloride;
- (dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(9-fluorenyl) titanium dichloride;
- (dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(1-(2-methylbenzoindenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy (methyl)silandiyl-(tertbutylamido)(cylopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride:



- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride:
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(indenyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(2-methyl-indenyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(2-methyl-fluorenyl) titanium dichloride;



- 2-hydroxyethyl-methoxy(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(tertbutylamido)(1-indenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(9-fluorenyl) titanium dichloride:
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride:
- (2-hydroxyethoxy)-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl (methyl) methylene (tertbutylamido)
- (tetramethylcyclopentadienyl) titanium dichloride:
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo-(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride;





- (3-hydroxypropyl)(methyl) silandiyl-oxo(1-indenyl) titanium dichloride; (3-hydroxypropyl)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride; (3-hydroxypropyl)(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride; (3-hydroxypropyl)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl- oxo(cylopentadienyl) titanium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(1-indenyl) titanium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(1-indenyl) titanium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(1-indenyl) titanium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(fluorenyl) titanium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(9-methylfluorenyl) titanium dichloride (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) zirconium dichloride; (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(tetramethylcylopentadienyl) zirconium dichloride; (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride; (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-(2-metthylbenzoindenyl) zirconium dichloride;

(2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(3-((2-hydroxyethyl)cylopentadienyl) zirconium dichloride;

(2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(1-(3-(2-hydroxyethyl)indenyl) zirconium dichloride;

(dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(cylopentadienyl) zirconium dichloride;

(dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(tetramethylcylopentadienyl) zirconium dichloride;

(dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(1-indenyl) zirconium dichloride;

(dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(9-fluorenyl) zirconium dichloride;

(dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(1-(2-methylbenzoindenyl) zirconium dichloride;

(3-hydroxypropyl)(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) zirconium dichloride;

(3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;

(3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;

(3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;

(3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;

(3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;

(3-hydroxypropyl)(methyl)silandiyl(tertbutylamido)-(1-(2-methylbenzoindenyl) zirconium

dichloride;

(dimethyl)silandiyl-(tertbutylamido)(3-((3-hydroxypropyl)cylopentadienyl) zirconium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(1-(3-(3-hydroxypropyl)indenyl) zirconium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(cylopentadienyl) zirconium dichloride:

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(tetramethylcylopentadienyl) zirconium dichloride:

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(1-indenyl) zirconium dichloride:

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(9-fluorenyl) zirconium dichloride:

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(1-(2-methylbenzoindenyl) zirconium dichloride:

2-hydroxyethyl-methoxy (methyl)silandiyl-(tertbutylamido)(cylopentadienyl) zirconium dichloride;

2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride:

2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;

- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;

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- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(indenyl) zirconium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(2-methyl-indenyl) zirconium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(2-methyl-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(tertbutylamido)(1-indenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(9-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl (methyl) methylene (tertbutylamido)
- (tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(1-indenyl) zirconium dichloride:
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride:
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(cylopentadienyl) zirconium dichloride;

(2-hydroxyethyl)(methyl) silandiyl-oxo-(tetramethylcyclopentadienyl) zirconium dichloride; (2-hydroxyethyl)(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride; (2-hydroxyethyl)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride; (2-hydroxyethyl)(methyl) silandiyl-oxo(9-fluorenyl) zirconium dichloride; (2-hydroxyethyl)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) zirconium dichloride; (3-hydroxypropyl)(methyl) silandiyl-oxo(cylopentadienyl) zirconium dichloride; (3-hydroxypropyl)(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) zirconium dichloride; (3-hydroxypropyl)(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride; (3-hydroxypropyl)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride; (3-hydroxypropyl)(methyl) silandiyl-oxo(9-fluorenyl) zirconium dichloride; (3-hydroxypropyl)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) zirconium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl- oxo(cylopentadienyl) zirconium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) zirconium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(9-fluorenyl) zirconium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) zirconium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(cylopentadienyl) zirconium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) zirconium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(9-fluorenyl) zirconium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) zirconium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(cylopentadienyl) zirconium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) zirconium dichloride:

- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(9-methylfluorenyl) zirconium dichloride ethylidene(1-(3-(3-hydroxypropyl)-indenyl))(cyclopentadienyl) zirconium dichloride; ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(cyclopentadienyl) zirconium dichloride;

dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(cyclopentadienyl) zirconium dichloride;

dimethylsilandiyl(1-(3-(3-hydroxypropyl)-indenyl)) (cyclopentadienil) zirconium dichloride; isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(cyclopentadienyl) zirconium dichloride; and isopropylidene(1-(3-(3-hydroxypropyl)-indenyl(cyclopentadienyl) zirconium dichloride.

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16. (amended once) A catalytic component as claimed in Claim 6, wherein the metallocene compound is selected from the group consisting of:

bis(2-hydroxyethyl-cyclopentadienyl) zirconium dichloride;

- (2-hydroxyethyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;
- (2-hydroxyethyl-cyclopentadienyl)(indenyl) zirconium dichloride;
- (2-hydroxyethyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;
- (2-hydroxyethyl-cyclopentadienyl)(fluorenyl) zirconium dichloride;
- (2-hydroxyethyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;
- bis(3-hydroxyropyl-cyclopentadienyl) zirconium dichloride;
- (3-hydroxyropyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;
- (3-hydroxyropyl-cyclopentadienyl)(indenyl) zirconium dichloride;
- (3-hydroxyropyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;
- (3-hydroxyropyl-cyclopentadienyl)(fluorenyl) zirconium dichloride;
- (3-hydroxyropyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;
- (3-hydroxyropyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;
- bis(2-hydroxy-ethoxy-cyclopentadienyl) zirconium dichloride;
- (2-hydroxy-ethoxy-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;
- (2-hydroxy-ethoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride;
- (2-hydroxy-ethoxy-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;
- (2-hydroxy-ethoxy-cyclopentadienyl)(fluorenyl) zirconium dichloride;
- (2-hydroxy-ethoxy-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;
- (2-hydroxy-ethoxy-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;
- bis(2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl) zirconium dichloride;
- (2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;
- (2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(indenyl) zirconium dichloride;
- (2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;

(2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(fluorenyl) zirconium dichloride;

(2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;

(2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(indenyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(fluorenyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;

bis(2-hydroxy-(dimethyl)silyl-cyclopentadienyl) zirconium dichloride;

(2-hydroxy-(dimethyl)silyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;

dimethylsilandiylbis(2-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride;

dimethylsilandiylbis(3-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl) (ciclopentadienil) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2methylbenzoindenyl)) zirconium dichloride;

dimethylsilandiylbis(2-(3-hydroxypropyl)-cyclopentadienyl) zirconium dichloride;

dimethylsilandiylbis(3-3-hydroxyropyl-cyclopentadienyl) zirconium dichloride;

dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl) (ciclopentadienil) zirconium dichloride; dimethylsilandiyl(2-(3-hydroxypropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;



dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(2-(3-hydroxypropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(2-(3-hydroxypropyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiy(3-3-hydroxyropyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(2-(3-hydroxypropyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

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dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

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dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl)(1-(2methylbenzoindenyl)) zirconium dichloride;

dimethylsilandiylbis(2-(2-hydroxy)-ethoxy-cyclopentadienyl) zirconium dichloride; dimethylsilandiylbis(3-(2-hydroxy)-ethoxy-cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxy)-ethoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiy(3-(2-hydroxy)-ethoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxy)-ethoxy-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride:

dimethylsilandiyl(3-(2-hydroxy)-ethoxy-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride:

dimethylsilandiyl(2-(2-hydroxy)-ethoxy-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxy)-ethoxy-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxy)-ethoxy-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy)-ethoxy-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiylbis(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; dimethylsilandiylbis(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride:

dimethylsilandiyl(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride:

dimethylsilandiyl(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxy-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;

dimethylsilandiylbis(3-(2-hydroxy-(dimethyl)silyl-1-indenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxy-(dimethyl)silyl-1-indenyl) (1-indenyl)zirconium dichloride; isopropylidenebis(2-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride; isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium

dichloride;

isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2methylbenzoindenyl)) zirconium dichloride;

isopropylidenebis(2-(3-hydroxypropyl)-cyclopentadienyl) zirconium dichloride; isopropylidenebis(3-(3-hydroxyropyl)-cyclopentadienyl) zirconium dichloride; isopropylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium

dichloride;

isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(2-(3-hydroxyropyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(1-(2methylbenzoindenyl)) zirconium dichloride:

isopropylidenebis(2-(2-hydroxy-ethoxy)-cyclopentadienyl) zirconium dichloride; isopropylidenebis(3-(2-hydroxy-ethoxy)-cyclopentadienyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; isopropylidenebis(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride: isopropylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride: isopropylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidene(2-(2-hydroxy-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride: ethylidenebis(2-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride; ethylidenebis(3-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride; ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl) (cyclopentadienyl) zirconium dichloride; ethylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(2-(3-hydroxypropyl)-cyclopentadienyl) zirconium dichloride; ethylidenebis(3-(3-hydroxyropyl)-cyclopentadienyl) zirconium dichloride; ethylidene(3-(3-hydroxyropyl)-cyclopentadienyl) (cyclopentadienyl) zirconium dichloride; ethylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(3-3-hydroxyropyl-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(3-3-hydroxyropyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(3-3-hydroxyropyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(2-(2-hydroxy-ethoxy)-cyclopentadienyl) zirconium dichloride;

ethylidenebis(3-(2-hydroxy-ethoxy)-cyclopentadienyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; ethylidenebis(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride: ethylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride: ethylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride: ethylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride: dimethylsilandiylbis(1-(2-(2-hydroxyethyl)-indenyl)) zirconium dichloride; dimethylsilandiylbis(1-(3-(2-hydroxyethyl)-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiylbis(1-(2-(3-hydroxypropyl)-indenyl)) zirconium dichloride;

dimethylsilandiylbis(1-(3-(3-hydroxyropyl)-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(3-hydroxypropyl)-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxyropyl)-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(3-hydroxypropyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxyropyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(3-hydroxypropyl)-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxyropyl)-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(3-hydroxypropyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxyropyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiylbis(1-(2-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride; dimethylsilandiylbis(1-(3-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiylbis(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; dimethylsilandiylbis(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride: dimethylsilandiyl(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride: dimethylsilandiyl(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride;

dichloride;

isopropylidenebis(1-(2-(2-hydroxyethyl)-indenyl)) zirconium dichloride;

dichloride:

dimethylsilandiyl(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium

dimethylsilandiyl(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium

isopropylidenebis(1-(3-(2-hydroxyethyl)-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride: isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride: isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride: isopropylidenebis(1-(2-(3-hydroxypropyl)-indenyl)) zirconium dichloride; isopropylidenebis(1-(3-3-hydroxyropyl-indenyl)) zirconium dichloride: isopropylidene(1-(2-(3-hydroxypropyl)-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(3-3-hydroxyropyl-indenyl))(1-indenyl) zirconium dichloride: isopropylidene(1-(2-(3-hydroxypropyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride: isopropylidene(1-(3-3-hydroxyropyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(2-(3-hydroxypropyl)-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(3-3-hydroxyropyl-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(2-(3-hydroxypropyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidene(1-(3-3-hydroxyropyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(1-(2-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride; isopropylidenebis(1-(3-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; isopropylidenebis(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium

dichloride;

isopropylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(1-(2-(2-hydroxyethyl)-indenyl)) zirconium dichloride; ethylidenebis(1-(3-(2-hydroxyethyl)-indenyl)) zirconium dichloride; ethylidene(1-(2-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride; ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride; ethylidene(1-(2-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(1-(2-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; ethylidene(1-(2-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(1-(2-(3-hydroxypropyl)-indenyl)) zirconium dichloride; ethylidenebis(1-(3-3-hydroxyropyl-indenyl)) zirconium dichloride; ethylidene(1-(2-(3-hydroxypropyl)-indenyl))(1-indenyl) zirconium dichloride; ethylidene(1-(3-3-hydroxyropyl-indenyl))(1-indenyl) zirconium dichloride; ethylidene(1-(2-(3-hydroxypropyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(1-(3-3-hydroxyropyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(1-(2-(3-hydroxypropyl)-indenyl))(9-fluorenyl) zirconium dichloride; ethylidene(1-(3-3-hydroxyropyl-indenyl))(9-fluorenyl) zirconium dichloride; dichloride; ethylidenebis(1-(2-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride; ethylidenebis(1-(3-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride; ethylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride; ethylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride; ethylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;



ethylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride; ethylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride; ethylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; ethylidenebis(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; ethylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; ethylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; ethylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; ethylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; ethylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilylenebis(9-(1-(2-hydroxyethyl)-fluorenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxyethyl)-fluorenyl))(cyclopentadienyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxyethyl)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxyethyl)-fluorenyl))(1-indenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxyethyl)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilylenebis(9-(1-(3-hydroxyropyl)- fluorenyl)) zirconium dichloride; dimethylsilylene(9-(1-(3-hydroxyropyl)-fluorenyl))(9-fluorenyl) zirconium dichloride; dimethylsilylene(9-(1-(3-hydroxyropyl)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilylene(9-(1-(3-hydroxyropyl)-fluorenyl))(1-indenyl) zirconium dichloride; dimethylsilylene(9-(1-(3-hydroxyropyl)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilylenebis(9-(1-(2-hydroxy-ethoxy)-fluorenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(9-fluorenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(1-indenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilylenebis(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-fluorenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium dichloride;

dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(9-(1-(2-hydroxyethyl)-fluorenyl)) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxyethyl)-fluorenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxyethyl)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxyethyl)-fluorenyl))(1-indenyl) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxyethyl)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(9-(1-(3-hydroxyropyl)-fluorenyl)) zirconium dichloride;

isopropylidene(9-(1-(3-hydroxyropyl)-fluorenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(9-(1-(3-hydroxyropyl)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(9-(1-(3-hydroxyropyl)-fluorenyl))(1-indenyl) zirconium dichloride;

isopropylidene(9-(1-(3-hydroxyropyl)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(9-(1-(2-hydroxy-ethoxy)-fluorenyl)) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(1-indenyl) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(9-(1-2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium dichloride;

isopropylidene(9-(1-2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride:

ethylidenebis(9-(1-(2-hydroxyethyl-fluorenyl)) zirconium dichloride;

ethylidene(9-(1-(2-hydroxyethyl-fluorenyl))(9-fluorenyl) zirconium dichloride;

ethylidene(9-(1-(2-hydroxyethyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(9-(1-(2-hydroxyethyl-fluorenyl))(1-indenyl) zirconium dichloride;



ethylidene(9-(1-(2-hydroxyethyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(9-(1-(3-hydroxyropyl-fluorenyl))(9-fluorenyl) zirconium dichloride; ethylidene(9-(1-(3-hydroxyropyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(9-(1-(3-hydroxyropyl-fluorenyl))(1-indenyl) zirconium dichloride; ethylidene(9-(1-(3-hydroxyropyl-fluorenyl))(1-indenyl) zirconium dichloride; ethylidene(9-(1-(3-hydroxyropyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(9-(1-(2-hydroxy-ethoxy-fluorenyl))(9-fluorenyl) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethoxy-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethoxy-fluorenyl))(1-indenyl) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethoxy-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride;

ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium dichloride; ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

- 2-hydroxyethyl(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiylbis(9-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl(methyl)silndiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiylbis(1-indenyl) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;
- 2-hydroxyethyl(methyl)silandiylbis(1-(2-methylbenzoindenyl)) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiylbis(9-fluorenyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dichloride:

- 3-hydroxyropyl(methyl)silandiylbis(1-indenyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride:
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidenebis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidenebis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(1-indenyl) zirconium dichloride:
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidenebis(1-indenyl) zirconium dichloride;



- 1-(2-hydroxyethyl)-ethylidenebis(cyclopentadienyl) zirconium dichloride:
- 1-(2-hydroxyethyl)-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidenebis(1-indenyl) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidenebis(cyclopentadienyl) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride:
- 1-(3-hydroxypropyl)-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidenebis(1-indenyl) zirconium dichloride:
- 1-(2-hydroxyethoxy)-ethylidenebis(cyclopentadienyl) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidenebis(cyclopentadienyl) zirconium dichloride:
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(tetramethylcylopentadienyl) titanjum



dichloride;

(2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;

(2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;

(2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;

(2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;

(2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-(2-metthylbenzoindenyl) titanium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(3-((2-hydroxyethyl)cylopentadienyl) titanium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(1-(3-(2-hydroxyethyl)indenyl) titanium dichloride;

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(dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(cylopentadienyl) titanium dichloride;

(dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(tetramethylcylopentadienyl) titanium dichloride;

(dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(1-indenyl) titanium dichloride;

(dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(9-fluorenyl) titanium dichloride;

(dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(1-(2-methylbenzoindenyl) titanium dichloride;

(3-hydroxypropyl)(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) titanium dichloride;

(3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;

(3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;

(3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;

(3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;

(3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;

(3-hydroxypropyl)(methyl)silandiyl(tertbutylamido)-(1-(2-methylbenzoindenyl) titanium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(3-((3-hydroxypropyl)cylopentadienyl) titanium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(1-(3-(3-hydroxypropyl)indenyl) titanium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(cylopentadienyl) titanium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(tetramethylcylopentadienyl) titanium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(1-indenyl) titanium dichloride;



(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(9-fluorenyl) titanium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(1-(2-methylbenzoindenyl) titanium dichloride;

- 2-hydroxyethyl-methoxy (methyl)silandiyl-(tertbutylamido)(cylopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(1-indenyl) titanium dichloride;





- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(indenyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(2-methyl-indenyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(2-methyl-fluorenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(tertbutylamido)(1-indenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(9-fluorenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl (methyl) methylene (tertbutylamido)
- (tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(9-fluorenyl) titanium dichloride;



- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo-(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride:
- 2-hydroxyethyl-methoxy(methyl) silandiyl- oxo(cylopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride:
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride:
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride:
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride:
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(fluorenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(9-methylfluorenyl) titanium dichloride
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) zirconium dichloride;



- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(tetramethylcylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-(2-metthylbenzoindenyl) zirconium dichloride;
- (dimethyl)silandiyl-(tertbutylamido)(3-((2-hydroxyethyl)cylopentadienyl) zirconium dichloride;
- (dimethyl)silandiyl-(tertbutylamido)(1-(3-(2-hydroxyethyl)indenyl) zirconium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(cylopentadienyl) zirconium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(tetramethylcylopentadienyl) zirconium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(1-indenyl) zirconium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(9-fluorenyl) zirconium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(1-(2-methylbenzoindenyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride:
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl(tertbutylamido)-(1-(2-methylbenzoindenyl) zirconium dichloride:
- (dimethyl)silandiyl-(tertbutylamido)(3-((3-hydroxypropyl)cylopentadienyl) zirconium dichloride;
- (dimethyl)silandiyl-(tertbutylamido)(1-(3-(3-hydroxypropyl)indenyl) zirconium dichloride;
- (dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(cylopentadienyl) zirconium dichloride;
- (dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(tetramethylcylopentadienyl) zirconium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(1-indenyl) zirconium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(9-fluorenyl) zirconium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(1-(2-methylbenzoindenyl) zirconium dichloride;

- 2-hydroxyethyl-methoxy (methyl)silandiyl-(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;

- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride:
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride:
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;



- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(indenyl) zirconium dichloride:
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(2-methyl-indenyl) zirconium dichloride:
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(9-fluorenyl) zirconium dichloride:
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(2-methyl-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(tertbutylamido)(1-indenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(9-fluorenyl) zirconjum dichloride:
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride:
- (2-hydroxyethoxy)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride:
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride:
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl (methyl) methylene (tertbutylamido)



(tetramethylcyclopentadienyl) zirconium dichloride;

- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo-(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(cylopentadienyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(9-fluorenyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl- oxo(cylopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(9-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) zirconium dichloride;





(2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(cylopentadienyl) zirconium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) zirconium dichloride;

(2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(fluorenyl) zirconium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(9-methylfluorenyl) zirconium dichloride ethylidene(1-(3-(3-hydroxypropyl)-indenyl))(cyclopentadienyl) zirconium dichloride; ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl)) (cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxypropyl)-indenyl)) (cyclopentadienyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxyethyl)-indenyl)) (cyclopentadienyl) zirconium dichloride; and

17. (amended once) A catalytic system as claimed in Claim 8, wherein the metallocene compound is selected from the group consisting of:

isopropylidene(1-(3-(3-hydroxypropyl)-indenyl(cyclopentadienyl) zirconium dichloride.

bis(2-hydroxyethyl-cyclopentadienyl) zirconium dichloride;

- (2-hydroxyethyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;
- (2-hydroxyethyl-cyclopentadienyl)(indenyl) zirconium dichloride;
- (2-hydroxyethyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;
- (2-hydroxyethyl-cyclopentadienyl)(fluorenyl) zirconium dichloride;
- (2-hydroxyethyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;

bis(3-hydroxyropyl-cyclopentadienyl) zirconium dichloride;

- (3-hydroxyropyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;
- (3-hydroxyropyl-cyclopentadienyl)(indenyl) zirconium dichloride;
- (3-hydroxyropyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;
- (3-hydroxyropyl-cyclopentadienyl)(fluorenyl) zirconium dichloride;
- (3-hydroxyropyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;
- (3-hydroxyropyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;

bis(2-hydroxy-ethoxy-cyclopentadienyl) zirconium dichloride;

- (2-hydroxy-ethoxy-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;
- (2-hydroxy-ethoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride;





(2-hydroxy-ethoxy-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;

(2-hydroxy-ethoxy-cyclopentadienyl)(fluorenyl) zirconium dichloride;

(2-hydroxy-ethoxy-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;

(2-hydroxy-ethoxy-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;

bis(2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl) zirconium dichloride;

(2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;

(2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(indenyl) zirconium dichloride;

(2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;

(2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(fluorenyl) zirconium dichloride;

(2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;

(2-hydroxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(indenyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(fluorenyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;

(3-hydroxy-propyl-(dimethyl)silyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;

bis(2-hydroxy-(dimethyl)silyl-cyclopentadienyl) zirconium dichloride;

(2-hydroxy-(dimethyl)silyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;

dimethylsilandiylbis(2-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride;

dimethylsilandiylbis(3-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl) (ciclopentadienil) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride:

dimethylsilandiyl(2-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;



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APPENDIX A

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2methylbenzoindenyl)) zirconium dichloride;

dimethylsilandiylbis(2-(3-hydroxypropyl)-cyclopentadienyl) zirconium dichloride; dimethylsilandiylbis(3-3-hydroxyropyl-cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl) (ciclopentadienil) zirconium dichloride; dimethylsilandiyl(2-(3-hydroxypropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(3-3-hydroxypropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(2-(3-hydroxypropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

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dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(2-(3-hydroxyropyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(2-(3-hydroxypropyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-3-hydroxyropyl-cyclopentadienyl)(1-(2methylbenzoindenyl)) zirconium dichloride;

dimethylsilandiylbis(2-(2-hydroxy)-ethoxy-cyclopentadienyl) zirconium dichloride; dimethylsilandiylbis(3-(2-hydroxy)-ethoxy-cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxy)-ethoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxy)-ethoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxy)-ethoxy-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy)-ethoxy-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride:

dimethylsilandiyl(2-(2-hydroxy)-ethoxy-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxy)-ethoxy-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxy)-ethoxy-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy)-ethoxy-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;



dimethylsilandiylbis(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; dimethylsilandiylbis(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride:

dimethylsilandiyl(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; dimethylsilandiyl(3-(2-hydroxy-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;

dimethylsilandiylbis(3-(2-hydroxy-(dimethyl)silyl-1-indenyl) zirconium dichloride;

dimethylsilandiyl(3-(2-hydroxy-(dimethyl)silyl-1-indenyl) (1-indenyl)zirconium dichloride;

isopropylidenebis(2-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride;

isopropylidenebis(3-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride;

isopropylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium



dichloride;

isopropylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2methylbenzoindenyl)) zirconium dichloride;

isopropylidenebis(2-(3-hydroxypropyl)-cyclopentadienyl) zirconium dichloride; isopropylidenebis(3-(3-hydroxyropyl)-cyclopentadienyl) zirconium dichloride; isopropylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(3-(3-hydroxypropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(2-(3-hydroxyropyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(1-(2methylbenzoindenyl)) zirconium dichloride;

isopropylidenebis(2-(2-hydroxy-ethoxy)-cyclopentadienyl) zirconium dichloride; isopropylidenebis(3-(2-hydroxy-ethoxy)-cyclopentadienyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; isopropylidenebis(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride;



isopropylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride:

isopropylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride:

isopropylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride:

isopropylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride:

isopropylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride:

isopropylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadieny(⅓9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(2-(2-hydroxy-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; isopropylidene(2-(2-hydroxy-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;

ethylidenebis(2-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride;

ethylidenebis(3-(2-hydroxyethyl)-cyclopentadienyl) zirconium dichloride;

ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl) (cyclopentadienyl) zirconium dichloride;

ethylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

ethylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

ethylidene(2-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidene(3-(2-hydroxyethyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(2-(3-hydroxypropyl)-cyclopentadienyl) zirconium dichloride;

ethylidenebis(3-(3-hydroxyropyl)-cyclopentadienyl) zirconium dichloride;

ethylidene(3-(3-hydroxyropyl)-cyclopentadienyl) (cyclopentadienyl) zirconium dichloride;

ethylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;



ethylidene(3-3-hydroxyropyl-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(3-(3-hydroxyropyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(3-3-hydroxyropyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(2-(3-hydroxypropyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(3-3-hydroxyropyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(2-(2-hydroxy-ethoxy)-cyclopentadienyl) zirconium dichloride; ethylidenebis(3-(2-hydroxy-ethoxy)-cyclopentadienyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(3-(2-hydroxy-ethoxy)-cyclopentadieny!)(1-indenyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(3-(2-hydroxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; ethylidenebis(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride: ethylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride; ethylidene(2-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride: ethylidene(3-(2-hydroxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride: dimethylsilandiylbis(1-(2-(2-hydroxyethyl)-indenyl)) zirconium dichloride; dimethylsilandiylbis(1-(3-(2-hydroxyethyl)-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride;

dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride: dimethylsilandiylbis(1-(2-(3-hydroxypropyl)-indenyl)) zirconium dichloride; dimethylsilandiylbis(1-(3-(3-hydroxyropyl)-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(3-hydroxypropyl)-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxyropyl)-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(3-hydroxypropyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxyropyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(3-hydroxypropyl)-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxyropyl)-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(3-hydroxypropyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxyropyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride: dimethylsilandiylbis(1-(2-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride; dimethylsilandiylbis(1-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride: dimethylsilandiyl(1-(2-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride: dimethylsilandiylbis(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; dimethylsilandiylbis(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium



dichloride;

dimethylsilandiyl(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; dimethylsilandiyl(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(1-(2-(2-hydroxyethyl)-indenyl)) zirconium dichloride;

isopropylidenebis(1-(3-(2-hydroxyethyl)-indenyl)) zirconium dichloride;

isopropylidene(1-(2-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride;

isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride;

isopropylidene(1-(2-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(1-(2-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(1-(2-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(1-(2-(3-hydroxypropyl)-indenyl)) zirconium dichloride;

isopropylidenebis(1-(3-3-hydroxyropyl-indenyl)) zirconium dichloride;

isopropylidene(1-(2-(3-hydroxypropyl)-indenyl))(1-indenyl) zirconium dichloride;

isopropylidene(1-(3-3-hydroxyropyl-indenyl))(1-indenyl) zirconium dichloride;

isopropylidene(1-(2-(3-hydroxypropyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(1-(3-3-hydroxyropyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(1-(2-(3-hydroxypropyl)-indenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(1-(3-3-hydroxyropyl-indenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(1-(2-(3-hydroxypropyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(1-(3-3-hydroxyropyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(1-(2-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride;

isopropylidenebis(1-(3-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride;

isopropylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride;

isopropylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride;

isopropylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride;



isopropylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; isopropylidenebis(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride: isopropylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium isopropylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride: isopropylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride: ethylidenebis(1-(2-(2-hydroxyethyl)-indenyl)) zirconium dichloride; ethylidenebis(1-(3-(2-hydroxyethyl)-indenyl)) zirconium dichloride; ethylidene(1-(2-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride; ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(1-indenyl) zirconium dichloride; ethylidene(1-(2-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(1-(2-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(9-fluorenyl) zirconium dichloride; ethylidene(1-(2-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; ethylidenebis(1-(2-(3-hydroxypropyl)-indenyl)) zirconium dichloride; ethylidenebis(1-(3-3-hydroxyropyl-indenyl)) zirconium dichloride; ethylidene(1-(2-(3-hydroxypropyl)-indenyl))(1-indenyl) zirconium dichloride; ethylidene(1-(3-3-hydroxyropyl-indenyl))(1-indenyl) zirconium dichloride; ethylidene(1-(2-(3-hydroxypropyl)-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(1-(3-3-hydroxyropyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride; ethylidene(1-(2-(3-hydroxypropyl)-indenyl))(9-fluorenyl) zirconium dichloride;

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ethylidene(1-(3-3-hydroxyropyl-indenyl))(9-fluorenyl) zirconium dichloride;
dichloride;
ethylidenebis(1-(2-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride;
ethylidenebis(1-(3-(2-hydroxy-ethoxy-indenyl)) zirconium dichloride;
ethylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride;
ethylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride;
ethylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;
ethylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;
ethylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride;
ethylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride;
ethylidene(1-(2-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;
ethylidene(1-(3-(2-hydroxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;
ethylidenebis(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride;
ethylidenebis(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride;
ethylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride;
ethylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride:
ethylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium
dichloride;
ethylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium
dichloride:
ethylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride;
ethylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride;
ethylidene(1-(2-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium
dichloride;
ethylidene(1-(3-(2-hydroxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium
dichloride:
dimethylsilylenebis(9-(1-(2-hydroxyethyl)-fluorenyl)) zirconium dichloride;
dimethylsilylene(9-(1-(2-hydroxyethyl)-fluorenyl))(cyclopentadienyl) zirconium dichloride;
dimethylsilylene(9-(1-(2-hydroxyethyl)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;
dimethylsilylene(9-(1-(2-hydroxyethyl)-fluorenyl))(1-indenyl) zirconium dichloride;
dimethylsilylene(9-(1-(2-hydroxyethyl)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;
dimethylsilylenebis(9-(1-(3-hydroxyropyl)- fluorenyl)) zirconium dichloride;
dimethylsilylene(9-(1-(3-hydroxyropyl)-fluorenyl))(9-fluorenyl) zirconium dichloride;
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dimethylsilylene(9-(1-(3-hydroxyropyl)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilylene(9-(1-(3-hydroxyropyl)-fluorenyl))(1-indenyl) zirconium dichloride; dimethylsilylene(9-(1-(3-hydroxyropyl)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilylenebis(9-(1-(2-hydroxy-ethoxy)-fluorenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(9-fluorenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(1-indenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; dimethylsilylenebis(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-fluorenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium dichloride; dimethylsilylene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(9-(1-(2-hydroxyethyl)-fluorenyl)) zirconium dichloride; isopropylidene(9-(1-(2-hydroxyethyl)-fluorenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(9-(1-(2-hydroxyethyl)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(9-(1-(2-hydroxyethyl)-fluorenyl))(1-indenyl) zirconium dichloride; isopropylidene(9-(1-(2-hydroxyethyl)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(9-(1-(3-hydroxyropyl)-fluorenyl)) zirconium dichloride; isopropylidene(9-(1-(3-hydroxyropyl)-fluorenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(9-(1-(3-hydroxyropyl)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride; isopropylidene(9-(1-(3-hydroxyropyl)-fluorenyl))(1-indenyl) zirconium dichloride; isopropylidene(9-(1-(3-hydroxyropyl)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(9-(1-(2-hydroxy-ethoxy)-fluorenyl)) zirconium dichloride; isopropylidene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(1-indenyl) zirconium dichloride; isopropylidene(9-(1-(2-hydroxy-ethoxy)-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride; isopropylidenebis(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride; isopropylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-fluorenyl) zirconium dichloride; isopropylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium

dichloride;

isopropylidene(9-(1-2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium dichloride; isopropylidene(9-(1-2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(9-(1-(2-hydroxyethyl-fluorenyl)) zirconium dichloride;

ethylidene(9-(1-(2-hydroxyethyl-fluorenyl))(9-fluorenyl) zirconium dichloride;

ethylidene(9-(1-(2-hydroxyethyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(9-(1-(2-hydroxyethyl-fluorenyl))(1-indenyl) zirconium dichloride;

ethylidene(9-(1-(2-hydroxyethyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(9-(1-(3-hydroxyropyl-fluorenyl)) zirconium dichloride;

ethylidene(9-(1-(3-hydroxyropyl-fluorenyl))(9-fluorenyl) zirconium dichloride;

ethylidene(9-(1-(3-hydroxyropyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(9-(1-(3-hydroxyropyl-fluorenyl))(1-indenyl) zirconium dichloride;

ethylidene(9-(1-(3-hydroxyropyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(9-(1-(2-hydroxy-ethoxy-fluorenyl)) zirconium dichloride;

ethylidene(9-(1-(2-hydroxy-ethoxy-fluorenyl))(9-fluorenyl) zirconium dichloride;

ethylidene(9-(1-(2-hydroxy-ethoxy-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(9-(1-(2-hydroxy-ethoxy-fluorenyl))(1-indenyl) zirconium dichloride;

ethylidene(9-(1-(2-hydroxy-ethoxy-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride;

ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-fluorenyl) zirconium dichloride;

ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium dichloride;

ethylidene(9-(1-(2-hydroxy-ethyl-(dimethyl)silyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

2-hydroxyethyl(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;

2-hydroxyethyl(methyl)silandiylbis(9-fluorenyl) zirconium dichloride;

2-hydroxyethyl(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;

2-hydroxyethyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

2-hydroxyethyl(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

2-hydroxyethyl(methyl)silndiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

2-hydroxyethyl(methyl)silandiylbis(1-indenyl) zirconium dichloride;

2-hydroxyethyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium



dichloride;

- 2-hydroxyethyl(methyl)silandiylbis(1-(2-methylbenzoindenyl)) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiylbis(9-fluorenyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiylbis(1-indenyl) zirconium dichloride;
- 3-hydroxyropyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 2-hydroxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride:
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidenebis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(1-indenyl) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;
- 2-hydroxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidenebis(cyclopentadienyl) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(1-indenyl) zirconium



dichloride;

- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(9-fluorenyl) zirconium dichloride:
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxy-ethyl-(dimethyl)silyl-(methyl)methylidenebis(1-indenyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidenebis(cyclopentadienyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride:
- 1-(2-hydroxyethyl)-ethylidenebis(1-indenyl) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidenebis(cyclopentadienyl) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 1-(3-hydroxypropyl)-ethylidenebis(1-indenyl) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidenebis(cyclopentadienyl) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;
- 1-(2-hydroxyethoxy)-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride:
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidenebis(cyclopentadienyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;



- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;
- 1-(2-hydroxyethyl)-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(tetramethylcylopentadienyl) titanium dichloride;



- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-(2-metthylbenzoindenyl) titanium dichloride;
- (dimethyl)silandiyl-(tertbutylamido)(3-((2-hydroxyethyl)cylopentadienyl) titanium dichloride;
- (dimethyl)silandiyl-(tertbutylamido)(1-(3-(2-hydroxyethyl)indenyl) titanium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(cylopentadienyl) titanium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(tetramethylcylopentadienyl) titanium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(1-indenyl) titanium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(9-fluorenyl) titanium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(1-(2-methylbenzoindenyl) titanium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) titanium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl(tertbutylamido)-(1-(2-methylbenzoindenyl) titanium dichloride;
- (dimethyl)silandiyl-(tertbutylamido)(3-((3-hydroxypropyl)cylopentadienyl) titanium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(1-(3-(3-hydroxypropyl)indenyl) titanium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(cylopentadienyl) titanium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(tetramethylcylopentadienyl) titanium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(1-indenyl) titanium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(9-fluorenyl) titanium dichloride;



(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(1-(2-methylbenzoindenyl) titanium dichloride;

- 2-hydroxyethyl-methoxy (methyl)silandiyl-(tertbutylamido)(cylopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium

dichloride;

- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(indenyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(2-methyl-indenyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(2-methyl-fluorenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(tertbutylamido)(1-indenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride:
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(9-fluorenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;



- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride:
- (2-hydroxyethyl)-(dimethyl)silyl (methyl) methylene (tertbutylamido)
- (tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride:
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo-(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl- oxo(cylopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride;
- (2-hydroxyethoxy)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride;



- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(fluorenyl) titanium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(9-methylfluorenyl) titanium dichloride
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(tetramethylcylopentadienyl) zirconium dichloride;



- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride; (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)(methyl)silandiyl-(tertbutylamido)(1-(2-metthylbenzoindenyl) zirconium dichloride;
- (dimethyl)silandiyl-(tertbutylamido)(3-((2-hydroxyethyl)cylopentadienyl) zirconium dichloride;
- (dimethyl)silandiyl-(tertbutylamido)(1-(3-(2-hydroxyethyl)indenyl) zirconium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(cylopentadienyl) zirconium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(tetramethylcylopentadienyl) zirconium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(1-indenyl) zirconium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(9-fluorenyl) zirconium dichloride;
- (dimethyl)silandiyl-(2-(2-hydroxyethyl)amido)(1-(2-methylbenzoindenyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (3-hydroxypropyl)(methyl)silandiyl(tertbutylamido)-(1-(2-methylbenzoindenyl) zirconium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(3-((3-hydroxypropyl)cylopentadienyl) zirconium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(1-(3-(3-hydroxypropyl)indenyl) zirconium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(cylopentadienyl) zirconium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(tetramethylcylopentadienyl) zirconium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(1-indenyl) zirconium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(9-fluorenyl) zirconium dichloride;

(dimethyl)silandiyl-(3-(3-hydroxypropyl)amido)(1-(2-methylbenzoindenyl) zirconium dichloride;

- 2-hydroxyethyl-methoxy (methyl)silandiyl-(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethoxy)(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl)



zirconium dichloride;

- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)-(methyl)methylene(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(indenyl) zirconium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(2-methyl-indenyl) zirconium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (3-hydroxypropyl)-(methyl)methylene(tertbutylamido)(2-methyl-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(tertbutylamido)(1-indenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(9-fluorenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl)methylen(-tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride; (2-hydroxyethoxy)-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium



dichloride;

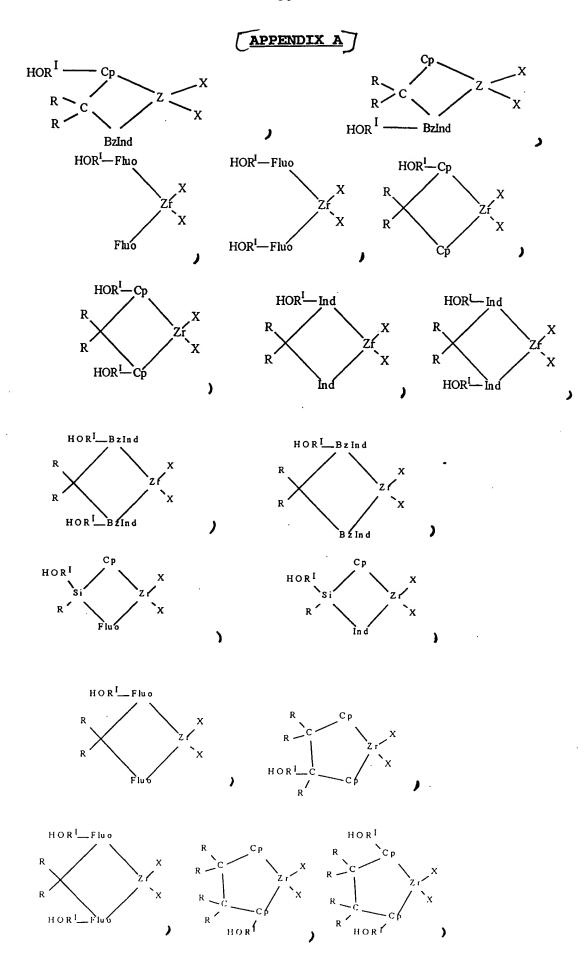
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(1-indenyl) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethoxy)-(methyl)methylen(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl (methyl) methylene (tertbutylamido)
- (tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(1-indenyl) zirconium dichloride:
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(9-fluorenyl) zirconium dichloride:
- (2-hydroxyethyl)-(dimethyl)silyl-(methyl)methilene(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride:
- (2-hydroxyethyl)(methyl) silandiyl-oxo(cylopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo-(tetramethylcyclopentadienyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(9-fluorenyl) zirconium dichloride;
- (2-hydroxyethyl)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) zirconium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(cylopentadienyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(9-fluorenyl) zirconium dichloride;
- (3-hydroxypropyl)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl- oxo(cylopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride;
- 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride;



2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(9-fluorenyl) zirconium dichloride; 2-hydroxyethyl-methoxy(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) zirconium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(cylopentadienyl) zirconium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) zirconium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(9-fluorenyl) zirconium dichloride; (2-hydroxyethoxy)(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) zirconium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(cylopentadienyl) zirconium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) zirconium dichloride: (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(1-indenyl) zirconium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) zirconium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(fluorenyl) zirconium dichloride; (2-hydroxyethyl)-(dimethyl)silyl-(methyl) silandiyl-oxo(9-methylfluorenyl) zirconium dichloride ethylidene(1-(3-(3-hydroxypropyl)-indenyl))(cyclopentadienyl) zirconium dichloride; ethylidene(1-(3-(2-hydroxyethyl)-indenyl))(cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(1-(3-(2-hydroxyethyl)-indenyl))(cyclopentadienyl) zirconium dichloride; dimethylsilandiyl(1-(3-(3-hydroxypropyl)-indenyl)) (cyclopentadienil) zirconium dichloride; isopropylidene(1-(3-(2-hydroxyethyl)-indenyl))(cyclopentadienyl) zirconium dichloride; and

18. (amended once) A catalytic component as claimed in Claim 1, wherein the metallocene compound is selected from the group consisting of:

isopropylidene(1-(3-(3-hydroxypropyl)-indenyl(cyclopentadienyl) zirconium dichloride.



)

HOR I HOR I HOR I) BzInd Fluo Ind R R' R R R'HOR HORI HOR > HOR , Ind Fluo HOR! HORI HOR^I R' $HOR^{I}_{\climate{l}}$ HORI HORI BzInd Fluo HOR! / R R , HOR! HORI HORI Fluo R R'HOR^I Bz Ind R 82

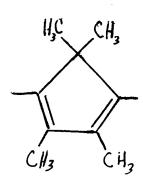
wherein:

Cp is cyclopentadienyl optionally substituted with C_1 - C_{20} alkyl, C_3 - C_{20} cycloalkyl, C_6 - C_{20} aryl, C_3 - C_{20} alkenyl, C_7 - C_{20} arylalkyl, C_8 - C_{20} arylalkenyl, or C_7 - C_{20} alkylaryl;

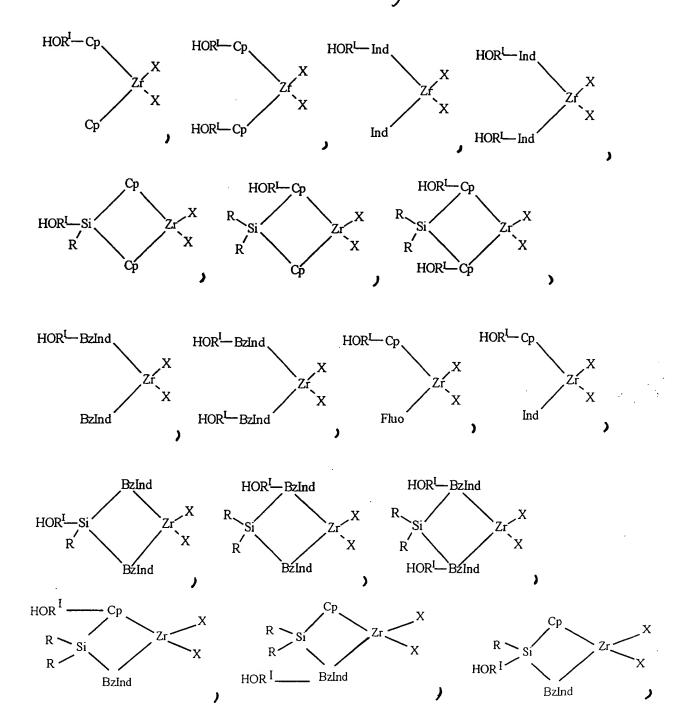
Ind is indenyl optionally substituted with C_1 - C_{20} alkyl, C_3 - C_{20} cycloalkyl, C_6 - C_{20} aryl, C_3 - C_{20} alkenyl, C_7 - C_{20} arylalkyl, C_8 - C_{20} arylalkenyl, or C_7 - C_{20} alkylaryl;

 ${\bf BzInd}$ is benzoindenyl optionally substituted with $C_1\text{-}C_{20}$ alkyl, $C_3\text{-}C_{20}$ cycloalkyl, $C_6\text{-}C_{20}$ aryl, $C_3\text{-}C_{20}$ alkenyl, $C_7\text{-}C_{20}$ arylalkyl, $C_8\text{-}C_{20}$ arylalkenyl, or $C_7\text{-}C_{20}$ alkylaryl;

 $\label{eq:Fluo} \textbf{Fluo} \text{ is a fluorenyl ring optionally substituted with C_1-C_{20}$ alkyl, C_3-C_{20}$ cycloalkyl, C_6-C_{20}$ aryl, C_3-C_{20}$ alkenyl, C_7-C_{20}$ arylalkyl, C_8-C_{20}$ arylalkenyl, or C_7-C_{20}$ alkylaryl; and C_9* is$



19. (amended once) A catalytic component as claimed in Claim 6, wherein the metallocene compound is selected from the group consisting of:



(APPENDIX A) HOR I HOR I BzInd BzInd HORI-Fluo HORI-Fluo HOR^I—Cp R HOR^I—Fluo Fluo HOR^I—Cp HOR^I—Ind HOR^L—Ind HOR!—C HOR Ind HOR^J_BzInd HOR LBz In d HOR LB Ind Bind H O R I___ F lu o HOR I__Fluo

HORI_FING

E97

87

R

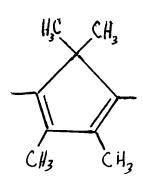
wherein:

Cp is cyclopentadienyl optionally substituted with C_1 - C_{20} alkyl, C_3 - C_{20} cycloalkyl, C_6 - C_{20} aryl, C_3 - C_{20} alkenyl, C_7 - C_{20} arylalkyl, C_8 - C_{20} arylalkenyl, or C_7 - C_{20} alkylaryl;

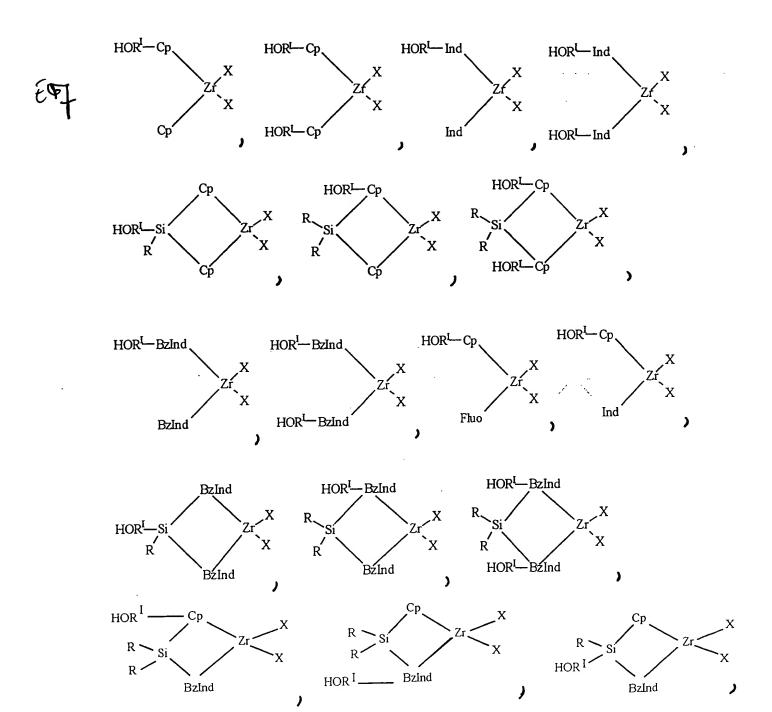
Ind is indenyl optionally substituted with C_1-C_{20} alkyl, C_3-C_{20} cycloalkyl, C_6-C_{20} aryl, C_3-C_{20} alkenyl, C_7-C_{20} arylalkyl, C_8-C_{20} arylalkenyl, or C_7-C_{20} alkylaryl;

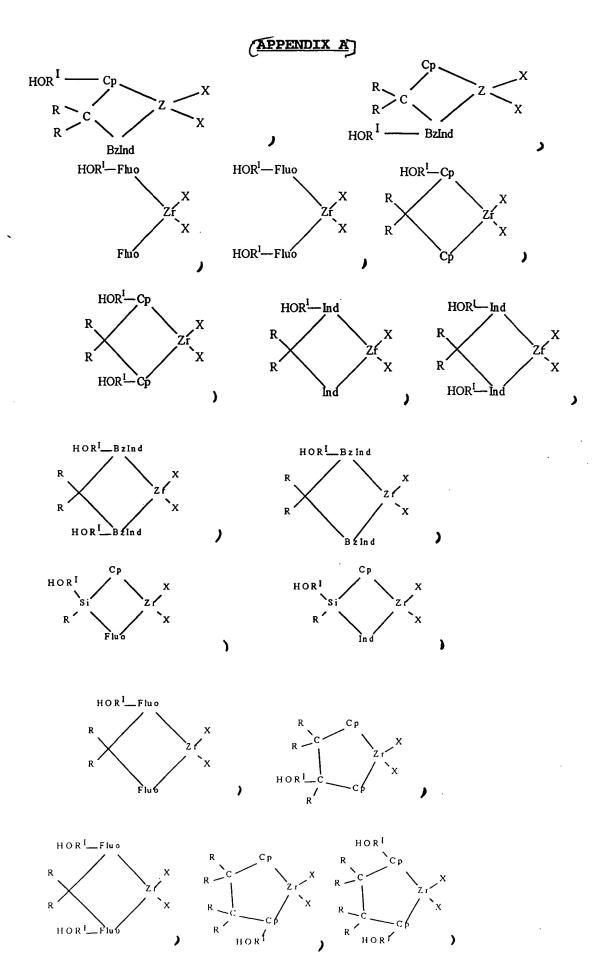
BzInd is benzoindenyl optionally substituted with C_1 - C_{20} alkyl, C_3 - C_{20} cycloalkyl, C_6 - C_{20} aryl, C_3 - C_{20} alkenyl, C_7 - C_{20} arylalkyl, C_8 - C_{20} arylalkenyl, or C_7 - C_{20} alkylaryl;

Fluo is a fluorenyl ring optionally substituted with C_1 - C_{20} alkyl, C_3 - C_{20} cycloalkyl, C_6 - C_{20} aryl, C_3 - C_{20} alkenyl, C_7 - C_{20} arylalkyl, C_8 - C_{20} arylalkenyl, or C_7 - C_{20} alkylaryl; and Cp* is



20. (amended once) A catalytic system as claimed in Claim 8, wherein the metallocene compound is selected from the group consisting of:





HOR I HOR I HOR I) BzInd R'R R R' R HORÍ HOR HOR HOR) , Сp Įnd Fluo HOR! HOR^I HOR^I R / R R HOR^I HOR^I HORI HOR! BzInd R R

HORI HORI HORI Fluo

$$X = X$$
 $X = X$
 $X = X$

>

,

wherein:

 ${\bf Cp}$ is cyclopentadienyl optionally substituted with C_1-C_{20} alkyl, C_3-C_{20} cycloalkyl, C_6-C_{20} aryl, C_3-C_{20} alkenyl, C_7-C_{20} arylalkyl, C_8-C_{20} arylalkenyl, or C_7-C_{20} alkylaryl;

Ind is indenyl optionally substituted with C_1 - C_{20} alkyl, C_3 - C_{20} cycloalkyl, C_6 - C_{20} aryl, C_3 - C_{20} alkenyl, C_7 - C_{20} arylalkyl, C_8 - C_{20} arylalkenyl, or C_7 - C_{20} alkylaryl;

BzInd is benzoindenyl optionally substituted with C_1 - C_{20} alkyl, C_3 - C_{20} cycloalkyl, C_6 - C_{20} aryl, C_3 - C_{20} alkenyl, C_7 - C_{20} arylalkyl, C_8 - C_{20} arylalkenyl, or C_7 - C_{20} alkylaryl;

Fluo is a fluorenyl ring optionally substituted with C_1-C_{20} alkyl, C_3-C_{20} cycloalkyl, C_6-C_{20} aryl, C_3-C_{20} alkenyl, C_7-C_{20} arylalkyl, C_8-C_{20} arylalkenyl, or C_7-C_{20} alkylaryl; and

Cp* is